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CLAIMS:

What is claimed is:

- 5 1. A method for managing resources of a physical processor, comprising:
 - determining whether a first logical processor on the first physical processor is idle;
 - determining whether a second logical processor on
 10 the first physical processor is busy if the first logical processor is idle; and
 - relinquishing resources of the first physical processor to the second logical processor if the second logical processor is busy.
- 15 2. The method of claim 1, wherein the step of determining whether the first logical processor is idle comprises:
 - determining whether the first logical processor is
 20 running a current job; and
 - determining whether a first run queue corresponding to the first logical processor is empty if the first logical processor is not running a current job, wherein the first logical processor is idle if the first run
 25 queue is empty.
3. The method of claim 2, further comprising:
 - running a job from the first run queue on the first logical processor if the first run queue is not empty.
- 30 4. The method of claim 2, wherein the first logical processor is not idle if the first logical processor is running a current job.

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5. The method of claim 1, further comprising:

determining whether a job is available in a second
run queue corresponding to a third logical processor on a
second physical processor if the second logical processor
5 on the physical processor is not busy.

6. The method of claim 5, further comprising:

running a job from the second run queue on the first
logical processor if a job is available in the second run
10 queue.

7. The method of claim 1, wherein the second logical
processor consumes resources of the first physical
processor if the first logical processor has a lowered
15 priority.

8. The method of claim 1, wherein the step of
relinquishing the physical processor resources comprises:

lowering the priority of the first logical
20 processor.

9. The method of claim 8, wherein the step of lowering
the priority of the first logical processor comprises
lowering the priority of the first logical processor for
25 a predetermined time period.

10. The method of claim 9, further comprising raising
the priority of the first logical processor after the
predetermined period of time.

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11. The method of claim 10, further comprising dispatching a job to the first logical processor in response to the raised priority.

5 12. An apparatus for controlling the active number of run queues on a first physical processor, comprising:
first determination means for determining whether a first logical processor on the first physical processor is idle;

10 first determination means for determining whether a second logical processor on the first physical processor is busy if the first logical processor is idle; and

15 relinquishing means for relinquishing resources of the first physical processor to the second logical processor if the second logical processor is busy.

13. The apparatus of claim 12, wherein the first determination means comprises:

20 means for determining whether the first logical processor is running a current job; and

25 means for determining whether a first run queue corresponding to the first logical processor is empty if the first logical processor is not running a current job, wherein the first logical processor is idle if the first run queue is empty.

14. The apparatus of claim 13, further comprising:

30 means for running a job from the first run queue on the first logical processor if the first run queue is not empty.

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15. The apparatus of claim 13, wherein the first logical processor is not idle if the first logical processor is running a current job.

- 5 16. The apparatus of claim 12, further comprising:
means for determining whether a job is available in a second run queue corresponding to a third logical processor on a second physical processor if the second logical processor on the physical processor is not busy.

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17. The apparatus of claim 16, further comprising:
means for running a job from the second run queue on the first logical processor if a job is available in the second run queue.

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18. The apparatus of claim 12, wherein the second logical processor consumes the resources of the first physical processor if the first logical processor has a lowered priority.

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19. The apparatus of claim 12 wherein the relinquishing means comprises:

priority means for lowering the priority of the first logical processor.

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20. The apparatus of claim 19, wherein the priority means comprises means for lowering the priority of the first logical processor for a predetermined time period.

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21. The apparatus of claim 20, further comprising means for raising the priority of the first logical processor after the predetermined period of time.

5 22. The apparatus of claim 21, further comprising means for dispatching a job to the first logical processor in response to the raised priority.

10 23. A computer program product, in a computer readable medium, for controlling the active number of run queues on a first physical processor, comprising:

instructions for determining whether a first logical processor on the first physical processor is idle;

15 instructions for determining whether a second logical processor on the first physical processor is busy if the first logical processor is idle; and

instructions for lowering the priority of the first logical processor if the second logical processor is busy.

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